

Hardware requirements for Web Application

This document outlines the hardware requirements for the web application server, database server and workstations. The factors that can affect the hardware needs are stated so they can be taken into consideration before acquiring or configuring the hardware. The best practices for hardware selection are also mentioned.

- **CPU and RAM requirements**

The CPU and RAM requirements for servers depend on the number of users and connections.

- **Storage requirements**

The storage requirements for servers should consider the total size of data stored, and logging requirements. The application and database files need an exclusive disk, separate from the OS and/or paging file disk. The backups should be done in a separate environment, server and/or platform.

- **Networking requirements**

The networking requirements for servers should factor in the expected traffic, load, and scalability.

Application Server Minimum Hardware Requirements

Requirement	Specifications (Minimum Recommended for 75 to 150 concurrent users)
Processor	Intel® Xeon Silver 43XX or Greater
CPU	8 Core minimum
RAM	24GB minimum / Recommended 64GB
Storage	RAID 5 - 500 GB (*SAS SSD preferable) Data raid disk must be separated from the OS disk.
Network	1 Gbps / Recommended 10 Gbps

Operating System	Windows Server Standard x64 2019 or Higher
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Database Server Minimum Hardware Requirements

Requirement	Specifications
Processor	Intel® Xeon Silver 43XX or Greater
CPU	8 Core minimum
RAM	32GB minimum
Storage	RAID 5 - 5 TB or more of usable space, *SAS SSD Disks recommended (Size will depend on current database size if applicable) Data raid disks must be separated from the OS disk.
Network	1 Gbps / Recommended 10 Gbps
Operating System	Windows Server Standard x64 2019 or Higher
Data Base	Microsoft SQL Standard Edition 2019 or Higher

Workstation Hardware Requirements (Minimum Recommended)

- Processor and RAM Requirements

The processor and RAM requirements for workstations are dependent on the tasks performed, the level of multitasking, and the software requirements.

- Graphics Requirements

The minimum display resolution is 1920 X 1080 or 1080p. In the windows scale and layout, the scale must be set in 100% to get the best display performance.

- Requirements

Requirement	Specifications
Processor	Intel® Core i5-10400 or Intel i5 Evo 11 th Generation Processor or Greater
RAM	16GB
Storage	256GB for OS, SSD, M.2 SATA, M.2 PCIE v3, UFS 2.0 (eMMC not recommended)
Network	1 Gbps NIC
Operating System	Windows 10 or Windows 11, Enterprise or Professional (v22H2 or Higher)
Display	Wide Screen, Resolution 1920 X 1080, 100% scale layout required
Wifi	Wireless N 300 Mbps / Recommended Wireless AC 800 Mbps or Greater

Factors Affecting Hardware Requirements

User Requirements

The total number of users and their expected behavior and actions can have a significant impact on hardware requirements.

Data Size and Type

The size and type of data being processed or stored can greatly impact the necessary hardware resources.

Best Practices for Selecting Hardware

- Identify the requirements of the application and hardware needs for your institution.
- Consider system scalability to accommodate future growth.
- Consider the reliability and performance of the hardware system.
- Consider the cost and the value of hardware.